



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW307D BYPASS RATIO: 4.2  
 UNIQUE ID NUMBER: 01P15PW144 PRESSURE RATIO ( $\pi_{co}$ ): 21.4  
 COMBUSTOR: TALON II  
 ENGINE TYPE: MTF RATED THRUST ( $F_{oo}$ ) (kN): 29.9

REGULATORY DATA **\*\* DATA SUPERSEDED \*\*** SEE FOLLOWING UID FOR REVISED DATA: **03P15PW193**

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>oo</sub> (g/kN) or SN	2.1	72.3	49.3	2.2
AS % OF ORIGINAL LIMIT	10.7	61.3	59.4	6.7
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			74.3	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			75.0	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			75.4	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			79.8	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 - OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>oo</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.355	0.00	0.00	20.61	0.8
CLIMB OUT	85	2.2	0.277	0.00	0.02	15.44	0.9
APPROACH	30	4.0	0.112	0.00	2.57	7.85	0.0
IDLE	7	26.0	0.046	0.75	26.75	4.32	2.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			150	54	1997	1393	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				4	4	4	4
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				1.8	66.8	46.6	2.0
SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				0.5	3.4	3.5	0.5
RANGE (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				1.2-2.4	62.7-70.2	43.4-51	1.4-2.5

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.1-99.3
TEMPERATURE (K)	294-299
ABS HUMIDITY (kg/kg)	0.0096-0.0122

### FUEL

SPEC	Jet A-1
H/C	1.86-1.88
AROM (%)	21.6-21.2

MANUFACTURER: Pratt & Whitney Canada  
 TEST ORGANIZATION: PW307 Development Engineering  
 TEST LOCATION: Mississauga, Ontario, Canada  
 TEST DATES: 24/06/2014-03/09/2014

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

### REMARKS

- Data from P&WC ER-8343-II
- PW307D Build Spec. 1318
- Engines tested: CH0005B25 (production standard development engine), CM0005B02, and CM0009B01
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)